



COLUMBIA | ENGINEERING

The Fu Foundation School of Engineering and Applied Science

DEPARTMENT OF CIVIL ENGINEERING AND ENGINEERING MECHANICS CONSTRUCTION ENGINEERING AND MANAGEMENT PROGRAM CENTER FOR BUILDINGS, INFRASTRUCTURE, AND PUBLIC SPACE

August 9, 2019

Dear Incoming Student and Prospective CBIPS Fellow,

I hope your summer is going well. Thank you for committing to come to Columbia University this Fall! We are eagerly awaiting your arrival, and would like to introduce you to a new and exciting initiative in the Center for Buildings, Infrastructure, and Public Space program. I hope you will find here the information and ideas that reflect Columbia's deep commitment to intellectual achievement in the service of our city, nation, and the world. Columbia recognizes that what defines great scholarship is not the easy acceptance of what we already know, but the relentless determination to discover what we still have to learn.

THE CENTER FOR BUILDINGS, INFRASTRUCTURE, AND PUBLIC SPACE

In 2018, the Columbia University Fu Foundation School of Engineering and Applied Science announced the creation of the Center for Buildings, Infrastructure and Public Space (CBIPS), under the leadership of Feniosky A. Peña-Mora, Sc.D., the Edwin Howard Armstrong Professor of Civil Engineering and Engineering Mechanics, and the former commissioner of the New York City Department of Design and Construction. The Center's mission is to identify how best to design, construct, and manage buildings, infrastructure, and civic spaces, with a focus on sustainability, resilience, and social impact, as well as cost, quality, safety, and schedule. The Center promotes ongoing dialogue among industry, government, and academics by means of an Advisory Board of engineering and construction companies' CEOs, as well as New York City government commissioners. It is led by Richard T. Anderson, president emeritus of the New York Building Congress, and Marcos Diaz Gonzalez, senior vice president of AECOM, a multinational engineering firm. Housed in the school's department of civil engineering and engineering mechanics, the cross-disciplinary Center brings together civil engineering, architecture, urban design, construction technology, real estate, finance, city planning, historic preservation, and allied sciences and arts. The Center adds to and enriches one of the top engineering schools in the world and one of the oldest in the nation. It contributes to the school's mission to expand knowledge and advance technology through the pioneering research of its more than 220 faculty, while educating students in a collaborative environment to become informed leaders.

CBIPS THINKS GLOBAL AND ACTS LOCAL

In addition, as you are aware, Columbia has one of the nation's top construction and engineering management programs, combining a comprehensive teaching curriculum, a cutting-edge research agenda, and high-profile industry alliances in a world-class university setting. The Construction Engineering and Management Program is a highly interdisciplinary undergraduate and Master syllabus

covering a wide range of subject areas. It has attracted students with backgrounds across all engineering fields, as well as architecture, economics, business, and urban design. Some students come right after completing their bachelor's degrees while others arrive with years of relevant experience.

The program is designed as a holistic approach to a well-rounded educational experience that covers important theories to build the technical depth required in the Architecture, Engineering, and Construction (AEC) sector. It also emphasizes hands-on learning, internships, executive shadowing experiences, case studies, independent projects, site visits, international study tours, as well as other co-curricular and extracurricular activities to enhance students' practical skills. The set of core courses offered exposes students to the entire lifecycle of the construction process, from conception and pre-design activities, design, and financing, to construction and management of buildings and infrastructure. Students also learn effective management techniques for organizing, planning, and coordinating the diverse activities among professionals in a wide variety of architecture, engineering, and construction industry trades.

Throughout the program, students develop a fundamental understanding of management, business, and legal principles, as well as innovative technological, organizational, and financial tools to lead, organize, and manage projects and programs to ensure systematic control of the budget, scheduling, risk, quality, safety, and improvement of sustainability. In a more general sense, students learn critical problem-solving skills that will allow them to identify specific AEC industry issues faced by modern cities and the built environment. With these skills they will be able to develop research questions, design research methodologies, and apply cutting edge technologies and tools. These capabilities allow students to collect and analyze data, and to interpret and communicate solutions to complex problems in a well-organized manner in a variety of engineering and construction industry contexts.

During the course of study, students who are more interested in pursuing a career in industry after graduating have the opportunity to explore key issues at regional, national, and global levels with our prominent group of engineering and construction industry advisory council partners. Students who are more academically focused may pursue deeper independent studies with renowned faculty members and industry advisors, leading to impactful peer-reviewed publications. In both cases, students are supported by insightful guidance and unparalleled technological resources.

At the end of the program, students are equipped with a firm skill-set of advanced technical, management, and research capabilities, and are well-qualified to pursue diverse career paths. Many will become AEC leaders, developing solutions to engineering and construction industry challenges, entrepreneurs who disrupt and extend the field. Many others will enter a Ph.D. program. Our program boasts a network of alumni spread across the industry. These include individuals at construction companies and real-estate developers, virtually in all major AEC companies in the nation, and most of the leading international institutions and municipal agencies. They serve a wide variety of roles, such as engineering management, consulting, finance, marketing, research, and development.

In sum, the program is preparation for a wide variety of future leadership positions and develops key analytic and research skills to do so.

LESSONS LEARNED FROM THE FIRST YEAR OF CBIPS AND OUR PROGRAM

Last year, we introduced a new Fellows program within our program with the creation of the Center for Buildings, Infrastructure, and Public Spaces. As part of that initiative, we welcomed 16 student Fellows who hailed from China, Costa Rica, the Dominican Republic, India, Italy, and the U.S. They brought with

them the perspective of prior education and work experience in architecture or engineering, and, as importantly, a keen passion for immersing themselves in all that Columbia – and New York City – has to offer. The initial year's research topics included Cybersecurity, Public-Private Partnerships, and Social Housing. There were hosted site visits to Washington Heights/Inwood, Brooklyn Bridge Park/St. Ann's Warehouse, Hudson Yards Subway Station, Columbia's new Manhattanville campus, and the OEM Emergency Housing in Brooklyn. Two week-long field research to Los Angeles and Paris reinforced the context of CBIPS theme projects and pedagogic goals by relevant site visits and meetings with government officials and distinguished practitioners in the private sector. In both the national and the international field studies, the CBIPS Fellows were immersed in the key issues that link engineers, construction professionals, and policy makers. Fellows toured sites that have been making the news, including new Olympic facilities, new museums, and new affordable housing. Meetings with mayors, civic and community leaders, and design and construction professionals put these innovative projects in perspective. Those Fellows concentrating on an analysis of possible procedural and project improvements in New York City's social housing programs, particularly at the New York City Housing Authority (NYCHA), also benefited from a visiting lecturer program featuring engineers, architects, and public agency housing clients. The academic year culminated with a day-long cybersecurity colloquium, which brought Fellows and Advisory Board members together with cyber experts from the public and private sectors. In addition, all Fellows participated in two board meetings where they had the opportunity to interact with industry CEOs and agency commissioners. For the 2019-2020 academic year, Fellows will have the same opportunities for interaction, learning, and contacts here in New York, as well as in London and Chicago.

APPLICATION FOR THE CBIPS FELLOWS PROGRAM

Admission to the Center for Buildings, Infrastructure, and Public Space is highly selective, but not at all bureaucratic. Criteria for selection into this prestigious program involves an understanding of its value, willingness to participate in fast-paced, collaborative “action research,” and a pragmatic approach to problem-solving and thinking outside of the constraints of siloed practice.

The application is in four parts:

- A brief statement about what you, as a prospective CBIPS Fellow, will gain from the program
- A brief statement on what you, as a prospective CBIPS Fellow, will contribute to the program
- A brief statement of what research you would like to undertake. You can select from the list in this letter or identify an area in which you have an interest even if it is not covered on the list
- A resumé

The **deadline** for priority consideration for participation is **August 15**.

WHAT CBIPS FELLOWS WILL GAIN

Those selected as CBIPS Fellows will gain access to ideas, initiatives, and innovators in the largest and most dynamic metropolis in the U.S. Ideas about construction management techniques and construction engineering methodologies are complemented by a hands-on, real-life understanding of implementation in the field. Initiatives in resilience, sustainability, engineering for social equity, and interdisciplinary practice are illustrated by research topics rooted in the most significant technological improvements, both in the field and in the lab. Innovators running the largest and most successful engineering and

construction management firms serve on our Industry Advisory Board, joined by leaders from the public sector, knowledgeable faculty, and recent alumni serving as mentors.

WHAT CBIPS FELLOWS WILL CONTRIBUTE

Fellows participating in the Center for Buildings, Infrastructure, and Public Space will bring their knowledge and experience to the table as programs, projects, and policies are vetted and challenged. Systemic change and questioning of basic assumptions are part and parcel of the cross-disciplinary interchange. Fellows will contribute creative solutions informed by engaged research centered on real-world issues of practice and implementation.

THE 2019-2020 ACADEMIC YEAR PROGRAM

Students accepted into the highly competitive CBIPS Fellows Program can expect a comprehensive and cohesive range of educational activities, including site visits to buildings, civic infrastructure, and public places throughout New York City. These field trips, led by knowledgeable Columbia Engineering faculty, also always involve the participation on site of the lead engineer, architect, construction professional, or client representative. Anticipated site visits in NYC for 2019-2020 include transit and water-system improvements, public plazas and parks, affordable housing projects, and one or more of the new super-tall towers. Relating to the NYC site visits, weeklong national and international study tours are an integral component of the pedagogic experiences. Fellows are expected to participate in the planned trips to London and Chicago. Both of these trips take place during Columbia's Winter Break in January and Spring Break in March so that no classes or other coursework is missed. During the trips, site visits to structures and infrastructure complement the NYC locations seen so that comparisons can be made in process, materials, systems, and policies. Meetings with AEC industry leaders in both London and Chicago will, in similar fashion, provide a corollary to the lessons learned from New York-based practitioners and clients. In addition to the experts met on site or in their offices, supplemental guest lectures will occur in the CBIPS studio space in the Engineering School. Designed to augment research efforts, the informal lectures foster discussion of key issues facing our cities and our professions. Students will have the opportunity and obligation to participate in meaningful advanced collaborative research projects with partners from NYC public agencies and private sector firms.

RESEARCH PARTNERS & PROJECTS FOR THE 2019-2020 ACADEMIC YEAR

For the academic year 2019-2020, the Center for Buildings, Infrastructure, and Public Space will focus on key research projects and programs in three areas of municipal government and project delivery. Given the CBIPS focus on the connection between buildings, infrastructure, and the civic realm, the projects will focus on initiatives of the NYC Department of Parks and Recreation and its not-for-profit affiliate, the Historic House Trust, and the NYC Department of Environmental Protection, along with the key private sector engineering firms addressing cybersecurity in the physical domain.

NYC DEPARTMENT OF PARKS AND RECREATION

The NYC Department of Parks and Recreation controls, maintains, and improves public parks, playgrounds, and sports fields located throughout the five boroughs of New York City. Opportunities for active recreation and passive enjoyment exist in parks, large and small, located in all neighborhoods. According to the Parks Department website, the vision of the agency “is to create and sustain thriving parks and public spaces for New Yorkers.” The departmental mission “is to plan resilient and sustainable parks, public spaces, and recreational amenities, build a park system for present and future generations, and care for parks and public spaces.” The Parks Department is the steward of more than 30,000 acres of land – 14% of New York City – including more than 5,000 individual properties ranging from Coney Island Beach and Central Park to Greenstreets and community gardens.

Concepts for Research by Columbia University CBIPS Graduate Program

- **Composting Toilets**

Analysis of the use of composting toilets in the public domain: Explore the feasibility (utility requirements) and applicability (flood zones, high water tables, and seasonality), types (materials, construction type – modular or built-in-place, pits location and requirements, specifics (capacity, consumer use/operation, maintenance, appearance).

- **Shipping Containers Modified Structures**

Adaptive re-use as comfort stations, field houses, concessions, etc.

- **Year-Round Water Fountains**

The Parks Department supplies a source of fresh drinking water to park users. However, most of the fountains are not in service through the winter months due to risk of freezing. This research project would entail exploration and research of ways other cities in a similar climate address the issue of freezing in order to provide drinking water to park users year-round. It would also involve looking at existing park fountains and providing practical, cost effective recommendations for increasing fountain availability through the winter in the short term, and long-term recommendations for the design of future fountains that could supply water year round.

- **Sustainable and Pragmatic Design**

Even modest, incremental improvements in lifecycle performance of the most commonly used materials and designs can help reduce the need for energy- and carbon-intensive repairs and replacements, not to mention savings to taxpayers that can go towards other public needs. Park Department designers routinely face recurring problems that are difficult to understand on any one particular project. Analyzing these issues and developing “best practices” will help to ensure that designers do not need to reinvent the wheel for each project, and to make sure that the wheels keep spinning efficiently.

- **Corrosion of Structures**

Corrosion is the primary cause of structural deterioration and eventual failure in steel and reinforced concrete structures exposed to seawater and/or winter de-icing salts. Many different methods for corrosion protection are available for new structures and for retrofitting existing structures. Each has its

own pros and cons with respect to efficacy, installation costs, environmental impacts, maintenance requirements, etc. This project would probably entail research of existing methods and suppliers, evaluation of the Park Department's specific needs, and then development of a comparison tool to help designers select the best alternatives for their projects.

- **Sea Rails**

As part of our large waterfront infrastructure portfolio, the Park Department owns and maintains approximately 25 miles of railing. Taken altogether, this has a value of about \$55 million. Over the decades, designers have chosen a wide range of different materials and designs, creating a large potential data set of alternatives to research and analyze in order to help determine the optimal sustainable design solutions. This project would probably entail compiling data from completed construction projects, visiting sites to assess existing conditions, reaching out to designers and manufacturers for expert opinions, and then standardizing and comparing data to provide meaningful recommendations.

HISTORIC HOUSE TRUST

The Parks Department also collaborates with a variety of not-for-profit trusts and conservancies, including the Historic House Trust (HHT), which is responsible for 23 legacy sites of architectural and cultural significance (see <https://historichousetrust.org/>).

Research projects anticipated in collaboration with the HHT include:

- **Little Red Light House** – including analysis of lighting systems and refurbishment. Manhattan's only remaining lighthouse located adjacent to the George Washington Bridge, the Little Red Light House was completed in 1931. In 1947, it was officially decommissioned and abandoned, but saved through the efforts of thousands of schoolchildren who had read the 1942 children's classic titled *The Little Red Lighthouse and the Great Gray Bridge* by Hildegard H. Swift.

- **Dyckman Farmhouse Museum** – including research on prior conditions. Manhattan's last Dutch Colonial farmhouse is located on upper Broadway in Inwood, and dates back to 1784. The house and grounds were donated to the City of New York in 1916, after a major renovation effort, which had removed a 19th-century addition. Today, expanding educational programs suggest that, perhaps, the lost space will be added back to the original structure.

- **Alice Austen House** – including analysis of adjacent properties. Alice Austen (1832-1952) was one of America's earliest and most prolific female photographers. She lived most of her life in *Clear Comfort*, a Victorian Gothic cottage on the shores of the Verrazano Narrows on Staten Island. In 1975, recognizing the importance of Alice Austen to New York's history, the city purchased the house and restored it and the grounds to their 19th-century appearance. Today, *Clear Comfort* operates as a museum, featuring exhibits of Austen's work and contemporary photography.

- **Merchant's House Museum** – including issues of its changing urban context. The Merchant's House Museum was built in 1832, when the fashionable Bond Street area attracted those made affluent by commerce to the blocks around Washington Square. The museum offers educational programs on 19th-century life and culture for adults and schoolchildren.

- **Morris-Jumel Mansion Museum** – including issues of sustainable operations. The Morris-Jumel Mansion Museum is located on a commanding rise with spectacular vistas south across Manhattan and east toward Long Island. It was built as a country retreat by Roger and Mary Morris in 1765. It served as the headquarters for George Washington and the Continental Army during the Battle of Harlem Heights in the fall of 1776. It now provides exciting public programs that expand the limits of a traditional historic house museum.

- **Bartow-Pell Mansion** – including the interaction of structure and horticulture. Thomas Pell purchased the land on which the Bartow-Pell Mansion is situated in 1654. Four generations of the Pell family lived in the manor until it was divided after the Revolutionary War. The property was sold to the City of New York in 1888, coincident with the creation of the new Pelham Bay Park. The terraced gardens date from 1916.

NYC DEPARTMENT OF ENVIRONMENTAL PROTECTION

The NYC Department of Environmental Protection (DEP) has among its key responsibilities the delivery and protection of the potable water that New Yorkers enjoy, and the removal of storm water and other substances, including airborne pollutants, deleterious to the health and well-being of the population. According to DEP Commissioner Vincent Sapienza, the DEP's mission "is to equitably provide services that promote the health and wellbeing of all 8.6 million city residents, while continuing to be a good neighbor and partner with dozens of Upstate New York communities, assuring that our massive infrastructure, which extends more than 100 miles from the city, is maintained in great operating condition and is resilient."

Research projects anticipated in collaboration with NYC DEP include:

- **Street-Side Drinking Water Sampling Stations** – including issues of placement and efficacy
- **Detecting Lead in NYC Public Schools** – including issues of risk and amelioration
- **Cybersecurity for DEP** – including issues of safeguarding the water supply.

SECURE BY DESIGN

Each municipal agency, including the Department of Transportation (NYC DOT), the Department of Citywide Administrative Services (DCAS), the Department of Design and Construction (DDC), and the Department of Information Technology (DOITT), among others, is responsible for anticipating, responding to, and alleviating threats and impairments resulting from increased reliance on Internet connectivity. Brought together by the NYC Cyber Command, public agencies in New York City are focusing research efforts on the challenges that impact the everyday life and comfort of New Yorkers. According to its website, "NYC Cyber Command is a centralized organization created by Executive Order to lead the City's cyber defense efforts, working across more than 100 agencies and offices to prevent, detect, respond, and recover from cyber threats." The Center for Buildings, Infrastructure, and Public Space convened a Columbia Cybersecurity Colloquium this past Spring, bringing together not only representatives of the public sector, but also industry leaders from Sidewalk Labs, STV, and Thornton Tomasetti. Fellows will have the opportunity to work in this area with partners from industry and government.

VISUALIZATION AND DATA ANALYTICS

The use of information technology supports almost every aspect of daily life. Construction is no exception. As part of a visualization and analytics research project students will explore the use of computer vision and visualization, augmented reality, and deep learning. These can support more effective monitoring of the construction process, as well as increase project safety and the quality of the work performed.

OTHER RESEARCH TOPICS SUGGESTED BY FELLOWS

We are also very open to hear from Fellows about what research is of interest to them based on the challenges they see and the experience that they have. Last year, some students suggested research projects pertaining to construction practice and processes that were of interest to them. In a city known for thinking outside the box, the Center for Buildings, Infrastructure, and Public Space is most eager to encourage and accept research proposals from prospective Fellows that address, in an interdisciplinary way, the overlap of construction technology with administrative, financial, and regulatory processes at the intersection of buildings, infrastructure, and public spaces.

MENTORING AND INFORMATION SHARING

For all research projects, students will have the opportunity to meet frequently with research partners from government agencies and the private sector.

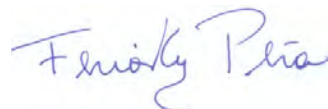
INVITATION

As we start the second year of the program, please consider the value-added of participating in the research initiatives and collegial networking of the Center for Buildings, Infrastructure, and Public Space. The CBIPS is a place to develop knowledge and skills, foster industry awareness and connections, and engage in topical and timely research. Its value resides in its advisors, alumni mentors, and faculty, to be sure, but also, and most importantly, in the Fellows that it attracts, engages, and inspires – you! Please start the process of becoming part of the CBIPS by completing the three-part application attached. Our priority application deadline is August 15, 2019. If you would like to be considered for priority consideration, please submit your application by that date.

For more information, please contact me by email at feniosky@columbia.edu.

Thank you – and we look forward to seeing you!

Sincerely,



Feniosky Peña-Mora

Edwin Howard Armstrong Professor of Civil Engineering and Engineering Mechanics
Executive Director, Center for Buildings, Infrastructure, and Public Space



**DEPARTMENT OF CIVIL ENGINEERING AND ENGINEERING MECHANICS
CONSTRUCTION ENGINEERING AND MANAGEMENT PROGRAM
CENTER FOR BUILDINGS, INFRASTRUCTURE, AND PUBLIC SPACE**

FELLOWS APPLICATION

COVER SHEET (PLEASE RETURN THIS PAGE WITH YOUR APPLICATION)

Name: _____

Email: _____

I am willing to participate in the:

International Field Study to London _____ **National Field Study to Chicago** _____

Please note that priority is given to students that commit to join both the London and Chicago field study.

APPLICATION FOR THE CBIPS FELLOWS PROGRAM

Admission to the Center for Buildings, Infrastructure, and Public Space is highly selective, but not at all bureaucratic. Criteria for selection into this prestigious program involves an understanding of its value, willingness to participate in fast-paced, collaborative “action research,” and a pragmatic approach to problem-solving and thinking outside of the constraints of siloed practice.

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- A brief statement of what research you would like to undertake. You can select from the list of topics suggested by CBIPS or in an area in which you have a particular interest
- A resumé

Please also return this cover sheet with contact information, and be sure to indicate your willingness to participate in our international and national trips.

The **deadline** for priority consideration for participation is **August 15**. Please submit by that date if you want to be considered.

Thank you – and we look forward to seeing you!

Sincerely,

Feniosky Peña-Mora

Edwin Howard Armstrong Professor of Civil Engineering and Engineering Mechanics
Executive Director, Center for Buildings, Infrastructure, and Public Space



Center for Buildings, Infrastructure and Public Space

Frequently Asked Questions

August 2019

Q: Will the research fellowship count for a number of credits? Is it equivalent to other courses?

A: The CBIPS research fellowship can count for academic credit. Fellows can take the research as an Independent Study and receive one to three credits per semester. Last year, the first year of the program, two of the 16 Fellows took four lecture-based classes in the fall and in the spring and did the research fellowship as independent study. It counted as their fifth class for their fall and spring programs, allowing them to graduate in one year.

Q: Is there a predetermined schedule/syllabus that the students can have access to?

A: The research topics, the majority of which will be done in partnership with public agencies or the private sector, as in the process of being determined. Fellows can also suggest their own specific research topic. All Fellows meet once each week throughout the semester for two hours. In addition, students working on a team project meet a second time each week for an additional hour. Last year the social housing research group had this supplemental hour-long session with housing experts, including engineers, architects and a Housing Authority design leader. Apart from these classroom sessions, field study to construction sites or recently completed buildings or civic infrastructure projects take place once each month. These are supplemented by week-long field study that occurs during the winter and spring breaks. This year these are scheduled for London (from Monday, 1/13, through Friday, 1/17) and Chicago (from Monday, 3/16, through Friday, 3/20). Based on that, during the semester, it is expected that Fellows will spend between four to six hours per week either in field study in New York City or research meetings. The semester schedule of holidays parallels that of School and University.

Q: Is the cost of both national and international field study covered by the faculty or by the student?

A: The cost of communal food and hotel lodging is paid for by the University, along with the cost of local public transportation such as the London Underground or Chicago Elevated Subway. Airfare, individual meals and incidentals are the responsibility of the Fellow.

Q: Does this have any financial help for the student?

A: There is no financial assistance for the Fellow in relation to tuition, room and board, or transportation in NYC. For the national and international field study, there is financial assistance as above, that is for communal food, hotel lodging and local public transportation.

Q: What is the duration of the program?

A: The duration of the program follows the academic calendar of the School and University. Preference is given to students who are interested in being a Fellow for the whole academic year and commit to participate in the international and national field studies.

Q: Are Fellows required to participate in both the International and the National Field Study?

A: Priority for selection to the CBIPS Fellows Program will be given to students who commit to participate in both the International and the National Field Study. Site visits and meetings with design and construction industry leaders in both London and Chicago will parallel and complement the program content in New York City. Participation is not obligatory but highly recommended.

Center for Buildings, Infrastructure and Public Space

Physical Infrastructure Cybersecurity Colloquium

May 8, 2019



Intro by Marcos Diaz Gonzalez, AECOM & Advisory Board Co-Chair



Ray Daddazio, Thornton Tomasetti and other were present

CBIPS held our second Industry Advisory Board Meeting on May 8, 2019, at Columbia's Faculty House. Board Members, Alumni and Fellows present heard an update on the activities of the Center, including research projects, field study and site visits. The meeting also convened the Columbia Physical Infrastructure Cybersecurity Colloquium at which we heard from industry experts in both the public and private sector on the implications of cybersecurity in relation to physical infrastructure topics including:

- Standards and regulations needed to govern cyber response and combat SLAs
- Need for employee training and public education to raise awareness of the risks of cyber attack
- Conflict between connectivity and transparency on the one hand, and security on the other
- Costs of changes in networks and capital projects to assure physical and logical safety
- Benefits of collaboration and partnership between public and private sector organizations



Panel moderator was Jerry Buckwalter, Northrup Grumman



CBIPS Fellows and Alumni participated in the discussion

Center for Buildings, Infrastructure and Public Space

NYC Housing Lectures

2018-2019



Bruce Eisenberg, NYCHA Office of Design



Mark Ginsberg, Curtis+Ginsberg Architect

CBIPS Fellows from the 2018-2019 inaugural year participated in a series of hour-long Housing Lectures on campus in the CBIPS Studio Lab or the Department Conference Room. Experts in housing design and construction were invited to discuss their affordable housing work, with a particular focus on current projects at the New York City Housing Authority (NYCHA). The series was inaugurated by George Leventis and Kelly Tuffs of Langan, who spoke about their post-Sandy site engineering work at NYCHA's Baruch Houses on the Lower East Side. The series also included discussion about NYCHA's design standards and NextGen NYCHA program by Bruce Eisenberg, the Deputy Director of NYCHA's Office of Design. Other speakers included housing specialists Mark Ginsberg, president of the Citizens Housing & Planning Coalition and James McCullar, president of the Consortium for Sustainable Urbanization, Richard Plunz of Columbia's GSAPP, along with Michele O'Connor and Chris Vitolano, project engineers at Langan.



George Leventis and Kelly Tuffs, Langan



James McCullar, McCullar Architects

Center for Buildings, Infrastructure and Public Space

NYC Site Visits

2018-2019



Hudson Yard 7 Line Subway Station with Richard Dattner



Manhattanville Campus with Marcelo Velez

CBIPS Fellows from the 2018-2019 inaugural year participated in a series of two-hour long Site Visits to various construction sites or recently completed projects throughout New York City. On these site visits students were accompanied by CBIPS faculty and hosted by the project engineer, responsible architect, or the client. Site visits complemented ongoing research by CBIPS Fellows. A group of 2018-2019 Fellows doing research on public-private partnerships was able to learn about project development with Lissa So, a partner at Marvel Architects, about her work in St. Ann's Warehouse at Brooklyn Bridge Park. Similarly, Fellows interested in modular construction for affordable housing spoke on site at the Brooklyn Post-Disaster Emergency Housing prototype with both James Garrison, the project architect, and James McConnell, the client at NYC Emergency Management. Site visits emphasized the issues of sustainability and resiliency as applied to the intersection of building design, infrastructure systems and public space.



Post-Disaster Housing Prototype with James Garrison

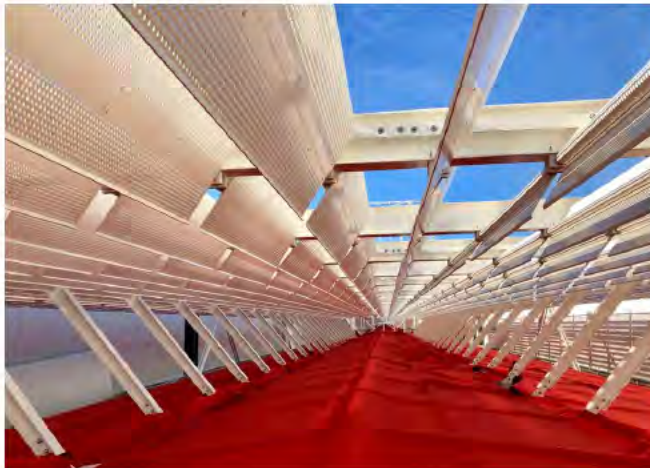


Brooklyn Bridge Park with Lissa So

Center for Buildings, Infrastructure and Public Space

Paris Field Study

January 2019



ENS Paris-Saclay



Forum des Halles

Nine Fellows of the CBIPS participated in a week-long Field Study in Paris during which we met with city officials, construction industry leaders, architects, engineers and project managers. Sixteen office meetings or site visits were held at locations from St. Denis to Paris Saclay, and at offices ranging from AECOM to VINCI. Highlights of the visit were site visits to the new ENS engineering school by Renzo Piano and a workshop about the public space in the *Jardin Gilles Clément* at Jean Nouvel's *Musée du Quai Branly*. Students heard Mayor Anne Hidalgo announce the results of *Réinventer Paris 2* after a morning session at City Hall with the Deputy Mayor and Planning Director. Meetings and site analysis focused on issues in Buildings, Infrastructure and Public Space, but also addressed key issues relating directly to student research projects. A meeting, for example, on cybersecurity took place at the fortress of the *Secrétariat général de la défense et de la sécurité nationale*, a branch of the Office of the Prime Minister.



Berges de Seine



Musée du Quai Branly

Center for Buildings, Infrastructure and Public Space

Los Angeles Field Study

March 2019



Los Angeles tower construction site



Cranes at the Port of Long Beach

Thirteen Fellows of the CBIPS participated in a week-long Field Study in Los Angeles during which we met with city officials, construction industry leaders, architects, engineers and project managers. Seventeen office meetings or site visits were held at locations from the Port of Long Beach to Culver City, and at offices ranging from AECOM to Thornton Tomasetti. Highlights of the visit were site visits to the new Sixth Street Viaduct construction site and a discussion on the Metro platform with representatives of LA Transit, the Mayor of Culver City, and a local housing developer. Students participated in a workshop at USC's Viterbi School of Engineering, meeting colleagues and heard AECOM senior staff, including former Los Angeles Deputy Mayor Kelly Bernard, discuss how the city was addressing the chronic problem of homelessness. Meetings and site analysis focused on issues in Buildings, Infrastructure and Public Space, but also addressed key issues relating directly to student research projects, including social housing.



Samitaur Building, Culver City



Sixth Street Viaduct construction site

Center for Buildings, Infrastructure and Public Space

NYC Site Visits

2019-2020



Hunter's Point South Park Expansion



The Shed at Hudson Yards

CBIPS Fellows will participate in two-hour long Site Visits, one each month, to various construction sites or recently completed projects throughout New York City. On these site visits students will be accompanied by CBIPS faculty and hosted by the project engineer, responsible architect, or the client. Planned site visits will complement ongoing research by CBIPS Fellows. That is to say if a group of 2019-2020 Fellows has selected to partner with the technical staff of the NYC Department of Parks and Recreation, all Fellows will be able to meet with designers at works in progress or recently completed parks such as Hunter's Point South Park. Similarly, if Fellows have chosen to partner with the NYC Department of Environmental Protection on issues of water quality, the new water tunnel will be on the list. In general, selected locations for site visits will bring together the key issues of sustainability and resiliency as they apply to the intersection of building design, infrastructure systems and public space.



One Vanderbilt



NYC Water Tunnel 3

Center for Buildings, Infrastructure and Public Space

London Field Study

January 2020



Millennium Bridge



London Bridge Station

Fellows of the CBIPS will participate in a week-long Field Study in London during which we will meet with city officials, construction industry leaders, architects, engineers and project managers. Twenty office meetings or site visits are planned at locations from Nine Elms to Finsbury Park, and at offices ranging from AECOM to ARUP. Highlights of the field study will be site visits to the new Crossrail transit facilities, including London Bridge Station by Grimshaw and Arcadis and a workshop about London's public squares with students at a prestigious design program. Students will meet at City Hall in Southwark with some of the key decision-makers in Mayor Sadiq Khan's administration and, as well with Peter Murray, one of the architectural advisors to the Mayor at his office at the Building Centre on Store Street. Affordable housing estates will be visited with those in the community responsible for their operations and maintenance. And adaptive reuse of infrastructure for cultural purposes will be analyzed at the Tate Modern.



Packington Housing Estate



Olympic Park

Center for Buildings, Infrastructure and Public Space

Chicago Field Study

March 2020

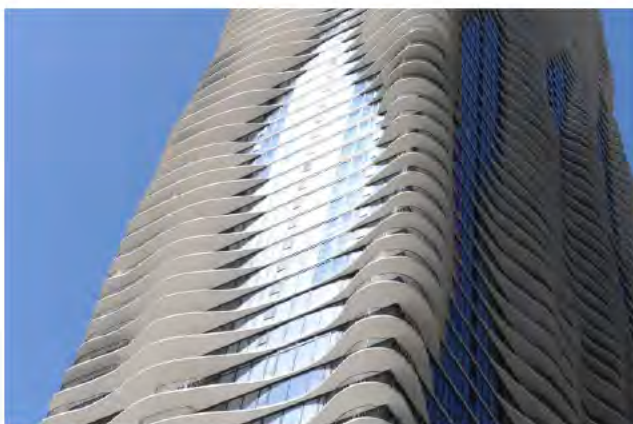


Washington/Wabash East Loop Elevated CTA Station



Riverwalk

CBIPS Fellows will participate in a week-long Field Study in Chicago during which we met with city officials, construction industry leaders, architects, engineers and project managers. Fifteen office meetings or site visits are planned locations from Chinatown to Pilsen, and at offices ranging from SOM to Studio Gang. Highlights of the study tour will be site visits to the new CTA elevated rail system construction sites and a discussion with Ross Barney Architects about their phased design of Riverwalk on the Chicago Loop. Students will participate in a planned workshop on issues of sustainability and resiliency at a renowned educational institution, meeting colleagues in the process. An overview of Chicago infrastructure and planning efforts will be garnered from Lynn Osmond, President of the Chicago Architecture Foundation (invited) and students will also be hosted on the CAF's famous Chicago River boat tour. The connection between buildings, infrastructure, and public space informs the study tour and Chicago analysis.



Aqua Tower



The 606 Bllomingdale Trail